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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BELIVEAU, SCOTT E	

ART UNIT	PAPER NUMBER
2614	9

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/621,516	POLI ET AL.	
	Examiner	Art Unit	
	Scott Beliveau	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41 and 44-51* is/are rejected.

7)☒ Claim(s) *42 and 43* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Miscellaneous

1. Please note that the examiner of record for the prosecution of this application has changed.

Response to Arguments

2. Applicant's arguments with respect to claims 1-51 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4-8, 10-12, 14-18, 20-22, 26, 27-29, 31-33, 36-40, 44, 45, and 49-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Kauffman et al. (US Pat No. 5,003,591).

In consideration of claim 1, the Kauffman et al. reference discloses a method for "controlling the downloading of code and data objects by a set-top terminal" [40]. The method comprises "transmitting a download control message to said set-top terminal" or instructions which "specify an object to be downloaded" or firmware package, a "ROMable size of said object" associated with the number of fixed length segments, and a "location of

said object" (i.e., on the primary or a specified secondary channel) "such that said set-top terminal is enabled to commence downloading said object upon receipt of said download control message" (Col 3, Line 39 – Col 4, Line 2; Col 7, Lines 29-38).

Claim 11 is rejected wherein the embodiment as illustrated in Figure 1, illustrates a "set-top terminal" [40] connected to a "cable television system " [10] comprising "means for transmitting a download control message to said set-top terminal" [10]. As aforementioned, the "download control message" or instructions "specify an object to be downloaded" or firmware package, a "size of said object" associated with the number of fixed length segments, and a "location of said object" (i.e., on the primary or a specified secondary channel) "such that said set-top is enabled to commence downloading said object upon receipt of said download terminal control message" (Col 3, Line 39 – Col 4, Line 2; Col 7, Lines 29-38). Subsequently, "said code or data object is added to firmware of said set-top terminal" (Figure 5).

In consideration of claim 21, the Kauffman et al. reference discloses a method for "controlling the downloading of code and data objects by a set-top terminal" [40]. The method comprises "transmitting a download control message to said set-top terminal" or instructions which "specify an object to be downloaded" or firmware package, a "size of said object" associated with the number of fixed length segments, and a "location of said object" (i.e., on the primary or a specified secondary channel) "such that said set-top terminal is enabled to commence downloading said object upon receipt of said download control message" (Col 3, Line 39 – Col 4, Line 2; Col 7, Lines 29-38). Subsequently, "said code or data object is added to firmware of said set-top terminal" (Figure 5).

Claims 32 and 33 are rejected in view of claim 11, wherein the system as illustrated in Figure 1, illustrates a "set-top terminal" [40] connected to a "cable television system " [10] comprising "means for transmitting a download control message to said set-top terminal" [10]. As aforementioned, the "download control message" or instructions "specify an object to be downloaded" or firmware package, a "size of said object" associated with the number of fixed length segments, and a "location of said object" (i.e., on the primary or a specified secondary channel) "such that said set-top terminal is enabled to commence downloading said object upon receipt of said download control message" (Col 3, Line 39 – Col 4, Line 2; Col 7, Lines 29-38). The "download control message" further "specifies an address or characteristic of said set-top terminal" wherein the "set-top terminal downloads said object in accordance with said download control message only if said address or characteristic of said set-top terminal matching the address or characteristic specified in said download control message" (Col 3, Lines 37-50; Col 12, Lines 7-17). Subsequently, "said code or data object is added to firmware of said set-top terminal" (Figure 5).

Claims 4, 14, 25, and 36 are rejected wherein "said object is a program code object for execution by said set-top terminal" associated with the firmware of the terminal and "said method further comprising downloading said code object in accordance with said download control method" such that the particularly specified objects are downloaded.

Claims 5, 6, 15, 16, 26, 27, 37, and 38 are rejected wherein "said download control message further specifies an entitlement control data structure . . . wherein said entitlement control data structure [is downloaded] in accordance with said download control message" such that the "download control message" further includes a downloaded checksum value

associated with the downloaded code (Col 11, Lines 3-10), a decryption key associated with the downloaded software as well as information indicating the particular maximum size of information to be loaded (Col 7, Lines 32-41). Accordingly, the embodiment further "authenticates and authorizes said downloaded code object using said downloaded entitlement control data structure" (Col 9, Line 60 – Col 10, Line 16; Col 10, Line 39 – Col 11, Line 2).

In consideration of claims 7, 17, 28, and 39, the reference discloses the particular usage of a "timer" [64] wherein upon "downloading said object in accordance with said download control message", the embodiment "terminates said downloading if a time exceeds a set limit a set limit prior to receipt of a next successive data packet of said object" (Col 7, Lines 25-48). The claim does not particularly require that the time is necessarily established as an intra-segment timer. Rather, the claim may be broadly met given that the firmware package comprises a plurality of packets wherein if the timer [64] associated with the entirety of the downloaded package expires prior to the "receipt of a next successive data packet of said object" then the download is terminated.

Claims 8, 18, 29, and 40 are rejected wherein the "download control message" in conjunction with specifying the particular size of the firmware further "specifies . . . an operating environment of said set-top terminal in which said terminal is to respond to said download message" wherein the aforementioned object is "downloaded . . . only if said set-top terminal is in said operating environment specified by said download control message". For example, the embodiment is operable to address firmware to particular terminals which are inherently associated with an "operating environment" (ex. geographic region).

Alternatively, the limitation may be met wherein the "operating environment" may be associated with the particular model of receiver such that a firmware package that is too large for a particular model of receiver will be rejected (Col 9, Lines 31-42).

Claims 10, 20, and 31 are rejected wherein the "download control message" further "specifies an address or characteristic of said set-top terminal" wherein the "set-top terminal downloads said object in accordance with said download control message only if said address or characteristic of said set-top terminal matching the address or characteristic specified in said download control message" (Col 3, Lines 37-50; Col 12, Lines 7-17).

Claim 22 is rejected wherein the aforementioned "code or data object is not part of an enhancement of television program being received by said set-top terminal" as it is disclosed to be firmware or operating software related for the "set-top terminal" [40] (Col 1, Lines 11-21).

Claims 44 and 45 are rejected wherein the embodiment further comprises "storing said object upon download in volatile memory or non-volatile memory in accordance with data in said download control message" [60]. The claim does not particularly require that the "data in said download control message" particularly identifies the type of memory to utilize in storage. Rather, the download of the firmware object and subsequent storage merely occurs "in accordance with data in said download message" specifying what to particularly download and where to find it.

Claim 49 is rejected wherein "said download control message specifies whether the set-top terminal is to purge older versions of said data object from memory" such that the transmission of the "download control message" in essence specifies that the older versions

of the firmware are to be "purged . . . from memory" (Col 11, Lines 55-64) pending successful download.

Claim 50 is rejected wherein the "download control message specifies said set limit for said timer" (Col 7, Lines 32-43).

Claim 51 is rejected wherein the "download control message specifies multiple objects" or segments "to be downloaded by said set-top terminal" (Col 7, Lines 32-41).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 3, 9, 13, 19, 24, 30, 35, 41, and 46-48 rejected under 35 U.S.C. 103(a) as being unpatentable over Kauffman et al. (US Pat No. 5,003,591).

In consideration of claims 3, 13, 24, and 35, as aforementioned the reference does not explicitly disclose that the aforementioned "location . . . includes a URL at which said object is stored". However, the reference teaches that the particular data channel may utilize any suitable transmission scheme known in the art (Col 5, Lines 27-49) including the public telephone network (Col 6, Lines 25-34). The examiner takes OFFICIAL NOTICE that it is notoriously well known in the art to utilize a "URL" as a means for locating a software object. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the Kauffman et al. embodiment, if necessary, so as to utilize a "URL at which said object is stored" for the purpose of providing a means for locating a software object when using the Internet as a transmission scheme for delivering firmware packages.

In consideration of claims 9, 19, 30, and 41, the reference does not explicitly disclose nor preclude the particular means by which the "download control message" is encapsulated. However, the reference suggests that the particular message may be utilized in conjunction with the facilitating the authorization/ordering of PPV programming (Col 6, Lines 8-24) and may further be utilized in conjunction with the distribution of decryption information associated with the firmware. The examiner takes OFFICIAL NOTICE that the particular usage of "entitlement management messages" in conjunction with a cable systems. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to "embed said download control message in an entitlement management message that is transmitted from a headend facility to said set-top terminal" for

the purpose of advantageously utilizing a well-known and existing messaging protocol that authorizes the usage of particular services (ex. PPV programming).

In consideration of claims 46 and 47, the aforementioned "download control message specifies whether said downloaded object can be stored in . . . memory" on the basis of specifying the particular size of the downloaded component (ex. if the firmware to be downloaded exceeds the memory available, it is not downloaded) (Col 7, Lines 31-42). The reference, however, does not explicitly disclose that the nonvolatile firmware RAM [60] is necessarily "Flash memory" which by definition is a form of nonvolatile memory. Accordingly, it would have been obviously to one having ordinary skill in the art at the time the invention was made to utilize "Flash memory" in conjunction with the embodiment for the purpose of advantageously utilizing a form of nonvolatile memory that can be erased in blocks or segments.

In consideration of claim 48, as aforementioned, the embodiment discloses the "ROMable size of said object" such that the download control message identifies the number of fixed length segments to be received and stored. The reference, however, is silent as to whether the particular size is a "size of said object as encapsulated and not including a size of a static variable required for operation of said object". It would have been an obvious matter of design choice such that the particular size defined in the downloadable control message identifies the "size of said object as encapsulated and not including a size of a static variable required for operation of said object", since applicant has not disclosed that the particular criteria by which size is measured solves any stated problem or is for any particular purposes and it appears that the invention would perform equally well with any size identifier for the

purpose of ensuring that the embodiment does not attempt to download firmware that is larger than its memory capacity.

8. Claims 2, 12, 23, and 34 rejected under 35 U.S.C. 103(a) as being unpatentable over Kauffman et al. (US Pat No. 5,003,591), in view of applicant's admitted prior art.

In consideration of claims 2, 12, 23, and 34, the Kauffman et al. reference discloses that the "said location of said object specified by said download control message includes a channel of a transport stream on which said object is transmitted" (Col 2, Lines 43-59). The reference, however, does not explicitly disclose nor preclude the embodiment utilizes "a packet identifier identifying data packets of said object within said transport stream". Applicant's admitted prior art discloses that is it known in the art in conjunction with "packetized" messages to transmit packets such as those associated with updated software or firmware using a "a packet identifier identifying data packets of said object within said transport stream" (IA: Page 2, Lines 17-26). Accordingly, it would have been obvious to one having ordinary skill in the art at the at the of the invention so as to modify the Kauffman et al. embodiment, if necessary, so as to utilize a "packet identifier" in conjunction with identifying the "location of said object" for the purpose of providing the appropriate parameters to the tuner [54] of Kauffman et al. so as to locate the downloaded software when using a MPEG based network.

Claim Objections

9. Claims 42 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims. In particular, while the existence of "platform objects" and "system objects" are understood by those skilled in the art, the applied reference fails to disclose or suggest further utilizing such in conjunction with the download control message in order to determine whether or not to load the distributed software object.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made.

- The Del Sordo et al. (US Pat No. 6,718,374) reference discloses a method and system to identify programming code that is appropriate to the architecture and capabilities of a set-top terminal in a cable television system.
- The Tanaka et al. (US Pat No. 6,266,810) reference discloses a method for remote program downloading for updating control software of a digital television receiver.
- The Safadi et al. (US Pat No. 6,256,393) reference discloses a method for providing authentication, authorization and access control of software objects residing in set-top terminals.
- The Willard (US Pat No. 6,374,405) reference discloses a system and method for scheduling delivery of modules of interactive television applications.

- The Houha et al. (US Pat No. 5,734,822) reference discloses a system for preprocessing computer programs before downloading them into home communication terminals.
- The Metz et al. (US Pat No. 5,666,293) reference discloses a method for downloading operating system software through a broadcast channel.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Beliveau whose telephone number is 703-305-4907. The examiner can normally be reached on Monday-Friday from 9:00 a.m. - 6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 703-305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SEB
May 12, 2004

JOHN MILLER
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